101ST CONGRESS
1st Session
HOUSE OF REPRESENTATIVES
REPT. 101-211
Part 1

FASTENER QUALITY ACT

AUGUST 2, 1989.—Ordered to be printed

Mr. ROE, from the Committee on Science, Space, and Technology, submitted the following

REPORT

[To accompany H.R. 3000 which on July 25, 1989, was referred jointly to the Committee on Energy and Commerce and the Committee on Science, Space, and Technology]

[Including cost estimate of the Congressional Budget Office]

The Committee on Science, Space, and Technology, to whom was referred the bill (H.R. 3000) to require that certain fasteners sold in commerce conform to the specifications to which they are represented to be manufactured, to provide for accreditation of laboratories engaged in fastener testing, to require inspection, testing, and certification, in accordance with standardized methods, of fasteners used in critical applications to increase fastener quality and reduce the danger of fastener failure, and for other purposes, having considered the same, report favorably thereon without amendment and recommend that the bill do pass.

CONTENTS

		Page
I.	Purpose of the act	2
II.	Background and need for legislation	2
III.	Legislative history	3
IV.	Major provisions	3
V.	Section-by-section analysis	4
VI.	Impact of inflation	9
VII.	Committee oversight findings and recommendations	9
VIII.	Summary of Government Operations Committee findings and recommendations	9
IX.	Budget analysis and projection	10
X.	Congressional Budget Office cost estimate	10
XI.	Changes in existing law	10
XII.	Committee recommendation	10
XIII.	Judiciary Committee letters	11

29-008

H703-2.

I. PURPOSE OF THE ACT

The purpose of the Act is to reduce the danger and costs of fastener failure in buildings, aircraft, motor vehicles, military equipment, and in other critical uses by requiring that fasteners used in high strength or critical applications conform to the standards and specifications declared by the manufacturer. Conformity must be demonstrated by tests in an accredited laboratory and certificates of conformance showing the results of the testing. Civil and criminal penalties are prescribed for the sale in commerce of counterfeit fasteners. In addition, the Act provides a mechanism for standardization of high strength fasteners and establishes a testing laboratory accreditation program in the National Institute of Standards and Technology.

II. BACKGROUND AND NEED

The United States uses billions of fasteners in buildings, nuclear power plants, bridges, motor vehicles, airplanes and other equipment each year. High strength bolts are used by the military, the space program, and private industry. In recent years, counterfeit and substandard metal fasteners, produced both in the United States and abroad, have pervaded U.S. industry, creating an enormous national safety problem. As a result, both the military and civilian sectors of the economy have experienced dangerous equipment and construction failures, as well as extraordinary expenses.

Since the problem was initially indentified, collective steps taken by industry and the government have proven to be very costly. In some cases, entire inventories have been scrapped and structures have been reassembled. These failures have also led to increased emphasis on supplier quality and receipt inspection. While industry may be able to correct the problem with increased surveillance of fastener suppliers and sole source procurement, this can eventually result in less competition among producers and would provide no protection for the unwary. Existing protections of law governing transactiõns between buyer and seller have been ineffective in eliminating the dangers created by counterfeit fasteners introduced into our country's infrastructure.

This legislation is designed to ensure that a supply of quality fasteners exists for use in critical applications. It requires final testing of sample fasteners by an accredited laboratory for conformance to standards, specifications, and grade identification markings, before the lot from which the sample is drawn can be sold. The Act also requires certificates of conformance to document the test results, traceability through a registered manufacturer's mark on the fastener, and a lot number identification on the shipping container. Civil and criminal penalties will encourage compliance. The legislation will provide backing to fastener industry efforts to police its own ranks and to promote competitive sources of supply for fasteners used in critical applications. Quality fasteners used in both the military and civilian sectors of our economy will reduce the dangers of construction and equipment failures, and the subsequent threats to public safety and national security.

III. LEGISLATIVE HISTORY

H.R. 336, a bill using standardization of weights and measures through laboratory accreditation to solve the counterfeit fastener problem, was introduced on January 3, 1989, by Mr. Roe and the bill was referred to the Committee on Science, Space, and Technology. The bill was subsequently referred to the Subcommittee on Science, Research, and Technology and a hearing was held on April 5, 1989. A bill designed to solve the problem of counterfeit fasteners from a regulatory perspective, H.R. 777, was introduced by Mr. Dingell on February 2, 1989 and was referred to the Committee on Energy and Commerce. A hearing on H.R. 777 was held on March 15, 1989 by the Subcommittee on Commerce, Consumer Protection and Competitiveness.

H.R. 336 is a revised version of H.R. 5120 from the 100th Congress, while H.R. 777 is a redraft of H.R. 5051 from the same Congress. Recognition that H.R. 336 and H.R. 777 are largely complementary led Congressmen Roe and Dingell to draft a composite bill, H.R. 3000 entitled "The Fastener Quality Act," which includes some provisions of both bill.

H.R. 3000 was introduced by Mr. Dingell and Mr. Roe on July 25, 1989 and jointly referred to the Committee on Energy and Commerce and the Committee on Science, Space, and Technology. There were over 100 cosponsors. The Committee on Science, Space, and Technology ordered the bill reported favorably by a voice vote on July 26, 1989, a quorum being present.

IV. MAJOR PROVISIONS

The purpose of the Fastener Quality Act is to provide for inspection, testing, and certification, in accordance with standardized methods, of fasteners sold in commerce and used in critical applications.

H.R. 3000 is limited to fasteners used in high strength and critical applications, and these are defined as fasteners which carry grade identification markings or which have been given high strength characteristics by means of "through hardening."

A sample of each lot of fasteners must be tested by an accredited laboratory to establish conformance of the lot to the standards and specifications followed during manufacture. The manufacturer is to retain an original test certificate and provide written notification of the test certificate to each purchaser of fasteners from the lot. The lot number is to be marked on any container of fasteners sold. Importers must receive and retain an original test certificate from any foreign manufacturer, or they may assume the role of the manufacturer by having a sample of the imported fasteners tested after receipt.

Alterations subsequent to manufacture that change the mechanical characteristics of the fasteners either must be tested as though newly manufactured, or the alteration must be described to the purchaser of the altered fasteners. Manufacturer insignia, which are required by the standards, are to be recorded by the Secretary of Commerce to provide traceability.

The Secretary of Commerce acting through the Director of the National Institute of Standards and Technology (NIST) is to estab-

lish a laboratory accreditation program for high strength fasteners. The program will measure the ability of laboratories to meet the laboratory accreditation standards issued by consensus standards organizations. The Director shall establish conditions under which the accreditation of laboratories by private entities or foreign governments can be accepted, and where necessary, may hire contractors to carry out the accreditation program established. Costs of the accreditation program to NIST and the Department of Commerce shall be fully reimbursable through fees for accreditation services.

The program is to be kept up to date by adding or deleting standards as appropriate, and the Secretary shall ensure compliance by private entities or foreign governments with the conditions established for accepting these accreditations. Civil injunctive relief and criminal penalties for knowingly certifying, marking, or selling counterfeit fasteners are prescribed in the Act.

The requirements of the Act apply to fasteners fabricated after the effective date, which is 180 days after final regulations are issued and after the Secretary determines that sufficient laboratories have been accredited to carry out the testing.

V. SECTION-BY-SECTION ANALYSIS

Section 1. The short title is the "Fastener Quality Act."

Section 2. This section discusses Congress' findings and establishes the purpose for this legislation. Counterfeit and substandard fasteners have been sold fraudulently in the United States and have been used in high strength and critical applications. Use of millions of counterfeit and substandard fasteners has adversely affected the military and civilian sectors of the economy and has resulted in dangerous equipment and construction failures. This threatens the health and safety of Americans and harms those in our domestic fastener industry who manufacture, import or distribute safe and conforming fasteners.

Section 3. This section requires that fasteners offered for sale or sold in the United States must be inspected, tested, and certified as conforming to the standards to which they have been manufactured.

The inspection and testing of a sample of each lot is to be performed by an accredited laboratory. The laboratory may be owned by or affiliated with the manufacturer or be an independent laboratory, but in any case, it must be accredited in accordance with Section 4 of this bill. The manufacturing standards shall specify the size, selection and integrity of the fasteners. For proper testing it is important that a random sample be used and the integrity of the sample be maintained, so that the testing and inspection processes will truly represent the characteristics of the manufactured lot.

If the standards to which the fasteners are manufactured do not specify the size, selection, or integrity of the sample, the Secretary may select an existing sample plan from a consensus standards organization. The Secretary is not empowered to draft a sample plan but should select one that already exists in the private sector. The customers may impose their own sample plan over and above that in the standard, or the one selected by the Secretary.

This section also includes a prior-inspection exemption for small lots of 50 fasteners or less. Small lot fasteners may be sold, provided that inspection, testing and certification is carried out, and written notice of the results are sent to the end user, as soon as practicable after the sale. The purpose of this exception is to allow for emergency orders of specialized fasteners that may not be in stock. These fasteners may be manufactured and shipped on an emergency basis, with testing and proper certification to follow. The manufacturer will have to make an adequate number of fasteners to fill the order and to meet the requirements for testing and inspection.

This section also details information that is required to be included on the certificate of conformance.

Section 4. This section establishes an accreditation program for laboratories, gives direction on selecting standards for accreditation from consensus standards organizations, and summarizes the operation of the laboratory accreditation program. Examples of standards from the private sector that may be reviewed for adoption include: ASTM E 994, ISO/IEC Guides 2, 25, 38, 43, 45, 49, 54, & 55. This section permits the Secretary to ensure compliance with accreditation requirements by private entities or foreign governments who accredit laboratories, and requires the Director of NIST to provide useful information to consensus standards organizations for updating these standards.

The accreditation program shall be established by the Secretary acting through the Director of the National Institute of Standards and Technology. This allows NIST to provide the necessary expertise on standards while keeping overall control of the program with the Office of the Secretary of Commerce.

The purpose of establishing a laboratory accreditation program is to assure a consistent level of quality in laboratories testing the fasteners, and to prevent counterfeiters from using bogus laboratories and fake certificates. It will give an additional measure of confidence to the purchaser who buys from a manufacturer that had the required testing performed in a captive laboratory.

Laboratory accreditation by private entities can be accepted if the accreditation process meets the criteria established by the program. These criteria should include processes to ensure sufficient quality of testing, recording of data, and interpretation of results. Therefore, the accrediting agency should be thorough, follow recognized standards of accreditation, and be free of financial or structural conflicts of interest in granting an accreditation.

In accepting accreditation granted by private entities, the program can take advantage of work already being done by the private sector, allowing private accreditation organizations to continue their work. This relieves NIST of the burden of performing all accreditation itself, and eliminates competition between NIST and the private sector. It is important to note that, in accepting an accreditation of a laboratory by a private entity, NIST does not thereby endorse the accrediting organization. This will avoid putting the government in a position of endorsing or rejecting accrediting agencies in the private sector, but will insure adequate oversight of accreditation standards.

There are two laboratory accreditation programs in the private sector that have been brought to the attention of the Committee.

One is an existing program that is operated by the American Association for Laboratory Accrediation (A2LA). This program accredits laboratories for a wide variety of tests including metal fastener testing. The other program is being planned by the American Society of Mechanical Engineers (ASME). The ASME program will accredit manufacturers of fasteners and will consider laboratory accreditation as part of the overall accreditation of a manufacturer's process. These are the types of programs the Committee has in mind when directing NIST to rely on the private sector.

In accepting accreditation of foreign laboratories by their governments, NIST is required to establish conditions that are no less stringent than those established for accepting accreditation by private entities. This ensures a firm technical base for accreditation and minimizes the impact of political considerations on the technical quality of the accreditation.

The effective period of accreditation is limited to three years. This is consistent with existing accreditation practice and provides an incentive for laboratories to maintain the quality of their work and equipment.

The accreditation program established by NIST shall be developed by adopting standards issued by consensus standards organizations. These standards already exist in the private sector and are adequate for laboratory accreditation. Adopting existing standards will encourage consensus standards organizations to continue in their traditional standards role and will eliminate the need for the government to develop "official standards." NIST may find more than one organization's standards are acceptable, even though it may only use one particular set of standards for accrediting purposes.

To take advantage of any standards revisions, the Director may, from time to time, add or delete standards as they are improved or become obsolete. A laboratory accredited under standards subsequently deleted may continue to test fasteners until its current accreditation expires. The purpose of this provision is to keep the government actively involved in accreditation program improvements as they occur, while at the same time "fixing" the accreditation of individual laboratories for a set period of time so that improvements can be factored into the accreditation program in an orderly fashion.

The operation of the laboratory accreditation program by NIST shall be on a cost-reimbursable basis, through fees charged to the laboratories being accredited. NIST may hire contractors to assist in accomplishing accreditations in a timely manner. This provision provides the opportunity to use private sector experience in accrediting laboratories, while allowing the government to direct the program.

Since NIST will gain considerable experience in operating a laboratory accreditation program and collect valuable information on the application of the selected standards, this section of the bill requires the Director of NIST periodically to transmit recommendations to consensus standards organizations for the purpose of program improvements.

The Secretary also has the responsibility to ensure that laboratories accredited by private entities or foreign governments have ac-

tually been accredited by a process that complies with the accepted requirements for such accreditation. This does not imply oversight of any accrediting agency but insures the integrity of the accreditation.

Section 5. This section makes it unlawful for a manufacturer of domestically produced fasteners to sell containers of fasteners unless accompanied by written notification that they were tested and certified by an accredited laboratory.

It is unlawful for any person to sell foreign-produced fasteners to an importer or for any importer to purchase containers of foreign-produced fasteners, unless accompanied by an original certificate detailing the results of testing by an accredited laboratory. The requirement of an original certificate assures that documentation will be available in the United States.

The Act provides an option for importers and private label distributors to assume the responsibility for inspection and testing. Certification of the results must be provided in writing and the foreign manufacturer must disclose the standards and specifications to which the lot was manufactured. This is an important provision for an importer who may have identified a quality manufacturer in a foreign country whose government fails to meet the conditions established by NIST for accrediting foreign laboratories. The importer can then assume the risk of importing the fasteners and having them successfully tested and certified in a U.S. accredited laboratory.

This section also requires that containers of fasteners sold at wholesale be marked conspicuously with their lot numbers. Lots may not be commingled in the same container at the wholesale level. Keeping lots separate and identifiable insures traceability throughout the wholesale distribution chain.

Manufacturing practices often include subsequent alterations to fasteners by someone other than the original manufacturer. These alterations include "through-hardening" by heat treatment, electroplating of fasteners having a tensile strength of 150,000 psi or higher, and machining. These processes change the mechanical and physical properties of the fastener and in some cases, the altered fasteners may no longer conform to the specifications of the original manufactured lot. The person who performs the alteration either must have the altered fastener tested and certified to establish the new characteristics, or must provide a written statement disclosing the alteration. This provides a warning to the purchaser that the subsequent manufacturing process may have altered the dimensional or physical characteristics of the fastener. This warning must be disclosed to subsequent purchasers in the wholesale distribution chain.

Section 6. This section directs the Secretary of Commerce to establish a program to record manufacturers' insignia. Fastener standards require that a raised or depressed insignia be applied to a fastener, identifying the manufacturer. In the past, there has been no central repository for these insignia, making counterfeit insignia difficult to detect. This section makes it unlawful to sell fasteners without the insignia required by the standards, which will enhance traceability, and renew consumer confidence in the authenticity of the insignia.

Section 7. This section describes the civil and criminal penalties that may result from violations of the Act. Civil penalties include injunctive relief to halt unlawful transactions with nonconforming fasteners while other remedies are being pursued under the Uniform Commerical Code.

Criminal penalties include fines under Title 18 of the United States Code or up to 5 years in prison, or both. Title 18 prescribes penalties for fraud, in particular, for defrauding the government. Specific criminal penalties will deter counterfeiters from peddling their fasteners in the U.S. market.

Section 8. This section requires laboratories, manufacturers, importers, and private label distributors to retain records of fastener testing and certification for 7 years. This insures traceability and makes documentation available to subsequent purchasers.

Section 9. This section states that the Act shall not preempt any right or cause of action a buyer may have with respect to sellers of fasteners under State laws.

Section 10. This section states that nothing in this Act shall be construed to limit or otherwise affect the authority of consensus standards organizations. Consensus standards organizations should remain free to carry on their business as usual without undue oversight, control or influence by the government. The Act depends on, and makes use of, the standards produced in the private sector by consensus organizations. The implementation of this Act is not intended to disturb the processes, expertise, or good judgment of these organizations.

Section 11. This section prescribes the time frame within which the Secretary must issue regulations necessary to implement this Act.

Section 12. This section includes definitions of terms used in the Act. The term "fastener" applies to those fasteners that bear grade identification markings and to those which are through-hardened. Many fasteners that are through-hardened may also bear grade identification markings; however, some through-hardened fasteners may be exempted by the standard from bearing a grade mark because there is not sufficient room on the fastener. Since these fasteners are used in critical applications they are covered by the Act.

Grade identification markings, as called for by fastener standards, were selected as a means of limiting the scope of the Act to fasteners used in high strength or critical applications. This eliminates testing requirements for common fasteners that do not need high strength or corrosion resistance and includes only those fasteners considered to be significant enough in their application to be manufactured to a standard. It also avoids the difficulty of defining high strength or critical applications, which are matters of judgment on an individual basis.

The term "lot" means those fasteners of the same grade which are produced from the same coil or heating of steel, aluminum, or other metal, thereby insuring that the fasteners have the same chemical composition.

Section 13. This section sets the effective date of the Act. The effective date applies to the fabrication of fasteners, and thus exempts any fasteners in inventory at the time of implementation. Some fasteners are so specialized that they may remain in invento-

ry for many years. Applying the Act to date of fabrication rather than date of sale relieves the industry from scrapping existing inventory.

The effective date of the Act is 180 days from the time the Secretary issues regulations, which are required to be written within 180 days of the passage of the Act. This sets the maximum time for implementation at 360 days from the date of passage.

The only exception to this deadline can be the determination by the Secretary that there are not enough accredited laboratories to serve the market. If the time frame is extended the Secretary must report to Congress, explaining the reasons for the extension and describing the steps taken to ensure the accreditation of a sufficient number of laboratories. Such a delay is not anticipated, since laboratories have the option of applying to NIST or to private entities for accreditation, and because competition for fastener testing contracts should encourage laboratories to become accredited by the effective date of the legislation.

During hearings before the Science, Research and Technology Subcommittee, it was brought to the attention of the Committee that there is another problem in the bolt and fastener industry that parallels the one of product counterfeiting. This other problem is the practice of certain overseas manufacturers of copying the promotional materials of U.S. bolt and fastener manufacturers.

Although it is not necessarily the case that overseas manufacturers who copy promotional materials also manufacture counterfeit bolts and fasteners, the imitation of promotional materials and company names and trademarks could support the marketing of mislabeled products by creating confusion among purchasers. Therefore, the Committee directs the Department of Commerce to investigate this practice in the industry, and to report on the copyright or trademark implications and what actions could be taken to correct it.

VI. IMPACT ON INFLATION

In accordance with rule XI, clause 2(l)(4), of the Rules of the House of Representatives, this legislation is assessed to have no adverse inflationary effect on prices and costs in the operation of the national economy.

VII. COMMITTEE OVERSIGHT FINDINGS AND RECOMMENDATIONS

Pursuant to rule XI, clause 2(l)(3) of the Rules of the House of Representatives, under the authority of rule X, clause 2(b)(1) and clause 3(f), the Committee's oversight findings and conclusions are reflected in the recommendations found in the present bill and report.

VIII. SUMMARY OF GOVERNMENT OPERATIONS COMMITTEE FINDINGS AND RECOMMENDATIONS

No findings and recommendations on oversight activity pursuant to rule X, clause 2(b)(2) and rule XI, clause 2(l)(3), of the Rules of the House of Representatives, have been submitted by the Committee on Government Operations for inclusion in this report.

IX. BUDGET ANALYSIS AND PROJECTION

H.R. 3000 provides no new budget authority or tax expenditures. Consequently, the provisions of section 308(a) of the Congressional Budget Act are not applicable.

X. CONGRESSIONAL BUDGET OFFICE COST ESTIMATE

U.S. CONGRESS,
CONGRESSIONAL BUDGET OFFICE,
Washington, DC, July 31, 1989.

Hon. ROBERT A. ROE,
Chairman, Committee on Science, Space, and Technology,
House of Representatives, Washington, DC.

DEAR MR. CHAIRMAN: The Congressional Budget Office has reviewed H.R. 3000, the Fastener Quality Act, as ordered reported by the House Committee on Science, Space, and Technology, July 26, 1989. We expect that enactment of the bill would result in no cost to the federal government or to state or local governments.

H.R. 3000 would require that fasteners used in high strength or critical applications conform to the standards and specifications to which they have been manufactured. The manufacturer would be required to have a sample of fasteners from each lot tested by an accredited laboratory to determine whether the lot conforms to the standards. The National Institute of Standards and Technology (NIST) would be responsible for the establishment and operation of a laboratory accreditation program. In addition, the bill would require NIST to establish a program to record manufacturers' insignias, and would prescribe civil and criminal penalties for the sale of counterfeit fasteners.

The establishment and operation of the accreditation program would not result in additional cost to the federal government because fees sufficient to recover the costs of the program would be charged to the laboratories being accredited. Other provisions of the bill are not expected to result in additional costs to the federal government.

If you wish further details on this estimate, we will be pleased to provide them. The CBO staff contact is Douglas Criscitello, who can be reached at 226-2860.

Sincerely,

ROBERT D. REISCHAUER,
Director.

XI. CHANGES IN EXISTING LAW

In compliance with clause 3 of rule XIII of the Rules of the House of Representatives, there are no changes in the existing law.

XII. COMMITTEE RECOMMENDATION

H.R. 3000 was ordered favorably reported on July 26, 1989, by the Committee by voice vote, a quorum being present.

XIII. JUDICIARY COMMITTEE LETTERS

HOUSE OF REPRESENTATIVES,
COMMITTEE ON THE JUDICIARY,
Washington, DC, July 31, 1989.

Hon. ROBERT A. ROE,
Chairman, Committee on Science, Space, and Technology,
Rayburn House Office Building, Washington, DC.

DEAR BOB: I have written today to the Speaker of the House informing him of my agreement not to seek sequential referral of the bill H.R. 3000. I would appreciate your including this letter and my letter to the Speaker in the report on this bill and making it a part of the record during consideration of H.R. 3000 by the House.

With every good wish, I am
Your friend, sincerely,

JACK BROOKS, *Chairman.*

Enclosure.

HOUSE OF REPRESENTATIVES,
COMMITTEE ON THE JUDICIARY,
Washington, DC, July 31, 1989.

Hon. THOMAS S. FOLEY,
The Speaker, House of Representatives,
Washington, DC.

DEAR MR. SPEAKER: The Committees on Energy and Commerce and Science, Space, and Technology have under consideration the bill, H.R. 3000, to require that certain fasteners sold in commerce conform to the specifications to which they are represented to be manufactured, to provide for accreditation of laboratories engaged in fastener testing, to require inspection, testing, and certification, in accordance with standardized methods, of fasteners used in critical applications to increase fastener quality and reduce the danger of fastener failure, and for other purposes. Section 7 of H.R. 3000 contains several matters that involve the jurisdiction of the Committee on the Judiciary under Rule X of the Rules of the House. Specifically, this section establishes criminal penalties for violations of the provisions of the bill and authorizes the Attorney General to bring an action in an appropriate United States District Court for appropriate declaratory and injunctive relief against any person who violates the Act.

The Committees on Energy and Commerce and Science, Space, and Technology have consulted with this Committee in formulation of the provisions of Section 7 of H.R. 3000. In order to expedite consideration of H.R. 3000, I am agreeing not to seek a sequential referral of this bill, without, of course, waiving this Committee's jurisdiction over the subject matter in question.

With every good wish, I am
Your friend, sincerely,

JACK BROOKS, *Chairman.*

○